B-336

CPS FINAL REPORT OUTLINE

25X1A5a2

1.0 SUMMARY (incl. Ops Concepts) [redacted]

2.0 INTRODUCTION

2.1 Objective of Study

2.2 Scope

2.3 Study Approach

(Study flow chart, organizational responsibility)

3.0 SYSTEM REQUIREMENTS [redacted]

3.1 Mission

(Type of missions, mission profiles, scenarios) 25X1A5a2

3.2 Security

(Covert, AJ, visual, concealment, logistics)

3.3 RPV

(Range, Altitude, appearance, payload, etc.)

3.4 Supporting Systems

(Satellites, relays, ground systems)

4.0 RPV SUBSYSTEM STUDIES 25X1A5a2

4.1 Communications [redacted]

4.1.1 Requirements

(Data rates, error control, duty cycle, security, covertness, AJ E/No reqts, LOS and satellite relay, coverage area, interchangeability)

4.1.2 Satellite Relay Systems

(Applicable satellites characteristics, coverage)

4.1.3 Link Analyses

(Parametric relating RPV power, antenna, sensitivity as a function of data rate for applicable satellites and characteristics of ground stations, expected interference levels, propagation factors)

4.1.4 Detectability and Security Techniques
(Modulation techniques, tactics, detectability, jamming analyses, performance impact)

4.1.5 "A" System Applicability
(Performance vs. requirements comparison modifications required)

4.1.6 Subsystem Preliminary Design
(Configuration, physical and electrical characteristics, performance flexibility, installation requirements, interfaces) 25X1A5a2

4.2 Aerobot Applications [redacted]

4.2.1 Description
(Physical, electrical characteristics, operation and performance)

4.2.2 Aircraft Considerations
(Installation and performance variations, data required for pre-conditioning, applicability to various aircraft)

4.2.3 Packaging Design
(Requirements, repackaging concept, assembly breakdown)

4.2.4 Installation
(Logistics, general procedures, checkout, support, flow time) 25X1A5a2

4.3 Sensor Studies [redacted]

4.3.1 Navigation and Visibility Requirements
(Navigation tolerance vs. mission scenario, display and data rate requirements as a function or corridor width, airplane speed, altitude, visibility, wind uncertainty)

4.3.2 Navigation Sensor Evaluation
(Brief description of characteristics, performance, of LORAN, Omega, NAVSAT, inertial, doppler and their applicability to this system)

4.3.3 Checkpoint Sensor Evaluation
(Brief description of characteristics, performance, of FLIR, DLTV, Radar, TERCOM, ARDF, Airway Nav Aids, and their applicability to this system.

4.3.4 Forward Look Sensor Evaluation
(Brief description of characteristics performance of FLIR, DLTV, mapping radar, terrain following radar, and their applicability to this system)

4.3.5 Sensor Subsystem Design
(Configuration, physical and electrical characteristics, installation reqts, data rates, interfaces) 25X1A5a2 [redacted]

5.0 VEHICLE EVALUATION

(Identify applicable aircraft, range, payload capability, compatibility with implementation concept) 25X1A5a2 [redacted]

6.0 RPV DESIGN

6.1 Configuration
(System block diagram, installation of equipment in RPV, equipment list including size, wt., power)

6.2 Performance
(Payload wt, range, speed)

6.3 Installation
(Pre-conditioning required, procedure, support, flow time)

6.4 Logistics
(Equipment packages, transportation)

6.5 Security
(Visual, concealment) 25X1A5a2 [redacted]

7.0 SYSTEM DEFINITION
(Air vehicle, satellite and ground complex definition)